

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
6 May 2005 (06.05.2005)

PCT

(10) International Publication Number
WO 2005/041332 A2

(51) International Patent Classification⁷: **H01M 8/02**,
8/10, 8/24

(74) Agent: **REITSTÖTTER-KINZEBACH (Z217)**; Reit-
stötter, Kinzebach & Partner (GbR), Sternwartstrasse 4,
81679 München (DE).

(21) International Application Number:
PCT/EP2004/011568

(22) International Filing Date: 14 October 2004 (14.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
MI2003A001972 14 October 2003 (14.10.2003) IT

(71) Applicant (for all designated States except US): **NUVERA
FUEL CELLS EUROPE S.R.L.** [IT/IT]; Via Bistolfi, 35,
I-20134 Milan (IT).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MERLO, Luca**
[IT/IT]; Via Molera, 12, I-22030 Montorfano (IT). **FAC-
CHI, Daniele** [IT/IT]; Via S. Anna, 17, I-25038 Rovato
(IT). **MAGGIORE, Antonio** [IT/IT]; Via Eustachi, 20,
I-20133 Milano (IT). **FAITA, Giuseppe** [IT/IT]; Via
Rivolta, 15, I-28100 Novara (IT).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

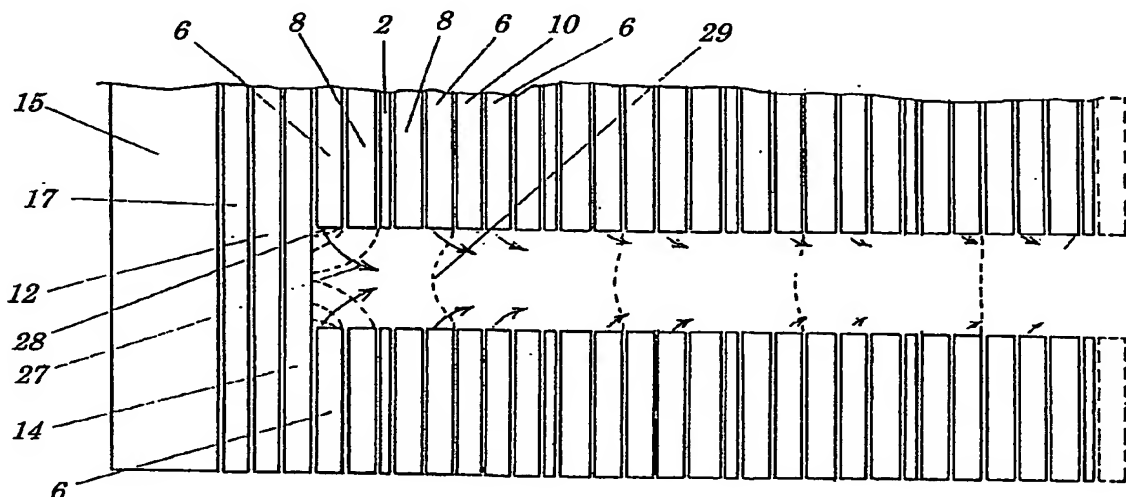
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished
upon receipt of that report

[Continued on next page]

(54) Title: **ELECTROCHEMICAL GENERATOR**



(57) Abstract: The invention describes a new design of ionomer membrane fuel cell stack comprising a multiplicity of stainless steel bipolar plates, electrodes, membranes and perimetrical sealing gaskets enclosed between compression plates. The novel design is directed to prevent the build up of metal ions in the membranes and the consequent voltage decay; for this purpose, the lateral migration inside the ionomer membranes of the metal ions contained in the cooling fluid is prevented.

WO 2005/041332 A2



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.